

To be submitted with application:

- 1) Cover letter
- 2) Resumé of Radiation Safety Officer
- 3) Security bond or assurance of financial responsibility
- 4) Certification

To be submitted with registration:

- 1) Cover letter explaining transfer of property from UCC to Elkem so as to preclude necessity of hiring outside radiation consultant to survey instruments and to delete instruments from UCC registration.
- 2) Include with cover letter results of in-house surveys.



DIVISION OF SAFETY AND HEALTH
Radiological Health Unit

12/5/80

Attachment III

APPLICATION "B" FOR RADIOACTIVE MATERIALS LICENSE
SEALED SOURCES (up to one curie) or DEVICES

Pg. 1

INSTRUCTIONS: Complete all items; use supplemental sheets where necessary. Certification, Item 16, must be completed. Handwritten signature in ink is mandatory. Submit one original and one copy to State of New York, Department of Labor, Division of Safety and Health, Radiological Health Unit, Two World Trade Center, New York, N.Y. 10047. Upon approval of an application, the applicant will receive a "Radioactive Materials License" issued pursuant to statutory and implementing regulations, and subject to all applicable rules, regulations and orders of all appropriate regulatory agencies now or hereafter in effect and to any conditions specified on the license.

1 NAME AND ADDRESS OF APPLICANT Elkem Metals Company P.O. Box 1344 4625 Royal Avenue Niagara Falls, NY 14302	2 ADDRESS(ES) AT WHICH RADIOACTIVE MATERIAL WILL BE USED (DIFFERENT FROM ITEM 1)
3 NATURE OF BUSINESS Research and development on ferroalloys	4 PREVIOUS LICENSE NUMBER(S) AND ISSUING AGENCY. (IF YOU HAVE EVER BEEN DENIED A LICENSE OR IF YOUR LICENSE HAS EVER BEEN REVOKED OR SUSPENDED, DESCRIBE DETAILS ON ADDITIONAL SHEET)
5 DEPARTMENT TO USE RADIOACTIVE MATERIALS Technology Department	6 RADIATION SAFETY OFFICER (NAME AND TITLE OF PERSON DESIGNATED IF OTHER THAN INDIVIDUAL USER, ATTACH RESUME OF TRAINING AND EXPERIENCE) E. J. Klesta
7 INDIVIDUAL USERS (NAME AND TITLE OF PERSON(S) WHO WILL USE AND/OR WHO WILL DIRECTLY SUPERVISE USE OF SEALED SOURCES OR DEVICES): E. J. Klesta and persons designated by him.	

CHECK ONE
☐ DEVICES: CERTIFICATE OF TRAINING ATTACHED AS REQUIRED
☐ DEVICES: TRAINING IN PROGRESS OR SCHEDULED. CERTIFICATE OF TRAINING TO FOLLOW.
☒ SEALED SOURCES: OTHER (DESCRIBE ON ADDITIONAL SHEET)

A RADIOACTIVE MATERIALS (ELEMENTS AND MASS NUMBER OF EACH)	B NAME OF MANUFACTURER AND MODEL NUMBER OF SEALED SOURCE(S)	C MAXIMUM ACTIVITY (IN MILLICURIES OR CURIES)
Cesium 137	(1) Sealed Source: Industrial Nucleonics (2) Corp. Model S-62 (3)	(1) 100 millicuries (2) (2 sources of 50 millicuries each) (3)

8 DEVICES: SPECIFY NAME OF MANUFACTURER(S), MODEL NUMBER(S) AND PURPOSE OF USE.

9 SEALED SOURCES: SPECIFY PURPOSE OF USE.

In Industrial Nucleonics Corporation Gage Model LS-101 for use as level indicating device on an induction-heated shaft furnace.

RADIATION DETECTION INSTRUMENTS (COMPLETE FOR INDUSTRIAL RADIOGRAPHY WELL LOGGING OR SEALED SOURCES OR DEVICES
EMITTING HIGH LEVEL BETA, GAMMA AND/OR NEUTRON RADIATION)

use supplementary sheets if necessary

TYPE OF INSTRUMENTS (Include make and model no. of each)	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE (mr/hr)	WINDOW THICKNESS (mg/cm ²)	USE (Monitoring surveying measur.)
Ray-D-Tec Radiation Meter American Nuclear Corp. Model	1 ANC-100XL	α β γ	0.1 mR/hr. Range: 0-100 mR/hr.	"Thin"	Surveying
Portable Gamma Ray Spectro- meter, Geometrics, Inc., Model	1 GR-410	γ	<u>Sensitivity:</u> ~ 0.001 mR/hr.	Inapplicable	Measuring

METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS (LISTED IN ITEM 10)
Ray-D-Tec Meter: Calibrated periodically by Union Carbide Corp., Linde Div., in Tonawanda, NY with
Cs 137 calibration sources. Meter is checked prior to all surveys with 0.1 mR/hr. and 20 mR/hr.
(C-14) operational standards.

FILM BADGES AND/OR DOSIMETER PROCEDURES USED SPECIFY METHOD OF CALIBRATING AND PROCESSING, OR NAME OF SUPPLIER
Film badges processed monthly by R. S. Landover, Jr. & Company, Glenwood, Illinois

INFORMATION TO BE SUBMITTED ON ADDITIONAL SHEETS

FACILITIES AND EQUIPMENT DESCRIBE LOCATION, TYPE BUILDING - CONSTRUCTION, FIRE AND SECURITY PROTECTION, STORAGE CONTAINERS - AREA, EQUIPMENT, ETC.

RADIATION PROTECTION PROGRAM DESCRIBE THE OPERATING AND EMERGENCY PROCEDURES, ESTIMATE OF MAXIMUM AND AVERAGE DOSE RATE AND ANNUAL DOSE RATE TO INDIVIDUAL USERS AND NON-RADIATION WORKERS LEAK TESTS, MAINTENANCE AND SERVICE

DISPOSAL OF SEALED SOURCES AND/OR DEVICES STATE WHETHER VENDOR OR LICENSED WASTE DISPOSAL SERVICE WILL ULTIMATELY DISPOSE OF SEALED SOURCES OR DEVICES ETC.

The licensee shall dispose of radioactive materials as waste only by transfer to persons specifically licensed or authorized to perform such services by the Industrial Commissioner, or other Agreement State, or as otherwise provided by Industrial Code Rule No. 38, Requirement 38

CERTIFICATION

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATE ON BEHALF OF THE APPLICANT NAMED IN ITEM 1 CERTIFY THAT ALL INFORMATION CONTAINED IN THIS APPLICATION, INCLUDING ANY SUPPLEMENTS ATTACHED HERETO IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

APPLICANT NAMED IN ITEM 1.

DATE _____

SIGNATURE _____

TITLE OF CERTIFYING OFFICIAL _____

E - Any misrepresentation of any material fact found to have been made in securing a license pursuant to this application shall constitute cause for the suspension or revocation of such license

ADDENDA

Item 7. Sealed Sources: Training and experience of user is detailed on attached resume.

Item 13. Locations: Building Numbers 143 and 169.

Type Building - construction: Brick and cement - steel frame.

Fire and Security Protection: Building 169 is provided with heat and smoke-sensitive fire alarm. Both buildings contain fire extinguishers, and are under 24-hour security.

Storage containers - area, equipment: (Building 143) Source is enclosed in a tightly capped lead bucket which emits $\leq 0.1 \text{ mR/hr.}$, and is labeled as containing radioactive material. Bucket is locked in a storage room accessible only from building exterior.

(Building 169) Source is stored on metal platform on upper part of furnace stack, access to which is chained-off and posted. Source is bolted to pipe, sheathed in lead tape, wrapped with wire, and labeled as radioactive material.

Item 14. Operating and emergency procedures: The radiation sources are secured against unauthorized removal from places of storage.

Estimate of dose-rates: Maximum - 15 mR/hr. Average annual dose-rate to user - 2.5 mR. Average annual dose-rate to non-radiation workers - nil above background.

Leak tests: Sources are surveyed with portable Geiger-Muller survey meter and are tested for leakage by wipe testing at 6-month intervals.

Maintenance and service: None required.



State of New York - Department of Labor
DIVISION OF SAFETY AND HEALTH
Radiological Health Unit

12/5/80

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SEALED SOURCES (up to one curie) or DEVICES

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1. NAME AND ADDRESS OF APPLICANT Elkem Metals Company P.O. Box 1344 4625 Royal Avenue Niagara Falls, NY 14302	2. ADDRESS(ES) AT WHICH RADIOACTIVE MATERIAL WILL BE USED (IF DIFFERENT FROM ITEM 1)
3. NATURE OF BUSINESS Research and development on ferroalloys	4. PREVIOUS LICENSE NUMBER(S) AND ISSUING AGENCY. (IF YOU HAVE EVER BEEN DENIED A LICENSE OR IF YOUR LICENSE HAS EVER BEEN REVOKED OR SUSPENDED, DESCRIBE DETAILS ON ADDITIONAL SHEET)
5. DEPARTMENT TO USE RADIOACTIVE MATERIALS Technology Department	6. RADIATION SAFETY OFFICER (NAME AND TITLE OF PERSON DESIGNATED IF OTHER THAN INDIVIDUAL USER, ATTACH RESUME OF TRAINING AND EXPERIENCE)
7. INDIVIDUAL USERS (NAME AND TITLE OF PERSON(S) WHO WILL USE AND/OR WHO WILL DIRECTLY SUPERVISE USE OF SEALED SOURCES OR DEVICES):	

CHECK ONE: ☐ DEVICES CERTIFICATE OF TRAINING ATTACHED AS REQUIRED
☐ DEVICES TRAINING IN PROGRESS OR SCHEDULED, CERTIFICATE OF TRAINING TO FOLLOW.
☐ SEALED SOURCES OTHER (DESCRIBE ON ADDITIONAL SHEET)

A. RADIOACTIVE MATERIALS (ELEMENTS AND MASS NUMBER OF EACH)	B. NAME OF MANUFACTURER AND MODEL NUMBER OF SEALED SOURCE(S).	C. MAXIMUM ACTIVITY (1 E., MILLICURIES OR CURIES)
1) Cesium 137	(1) Sealed Source (Industrial Nucleonics Corp. Model S-6)	(1) 100 millicuries
2)	(2)	(2) (2 sources of 50 millicuries each)
3)	(3)	(3)

A. DEVICES SPECIFY NAME OF MANUFACTURER(S) MODEL NUMBER(S) AND PURPOSE OF USE.

1)

2)

3)

B. SEALED SOURCES SPECIFY PURPOSE OF USE.

1) In Industrial Nucleonics Corporation Gage Model LS-101 for use as level indicating device on an induction-heated shaft furnace.

2)

3)

DO SH 237 (3 80)

(CONTINUED ON REVERSE)

UCCNHT0003424

RADIATION DETECTION INSTRUMENTS (COMPLETE FOR INDUSTRIAL RADIOGRAPHY, WELL LOGGING, OR SEALED SOURCES OR DEVICES
EMITTING HIGH LEVEL BETA, GAMMA AND/OR NEUTRON RADIATION)

use supplementary sheets if necessary

TYPE OF INSTRUMENTS (Include make and model no. of each)	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE (mr/hr)	WINDOW THICKNESS (mg/cm ²)	USE (Monitoring, surveying, measuring)
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Portable Gamma Ray Spectro- meter, Geometrics, Inc., Model	1 GR-410	γ	~ 0.001 mR/hr.	Inapplicable	Measuring

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Ray-D-Tec Meter: Calibrated periodically by Union Carbide Corp., Linde Div., in Tonawanda, NY with
Cs 137 calibration sources. Meter is checked prior to all surveys with 0.1 mR/hr. and 20 mR/hr.
(C-14) operational standards.

FILM BADGES AND/OR DOSIMETER PROCEDURES USED SPECIFY METHOD OF CALIBRATING AND PROCESSING, OR NAME OF SUPPLIER.
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TAINERS - AREA, EQUIPMENT, ETC.

RADIATION PROTECTION PROGRAM DESCRIBE THE OPERATING AND EMERGENCY PROCEDURES, ESTIMATE OF MAXIMUM AND AVERAGE
DOSE-RATE AND ANNUAL DOSE-RATE TO INDIVIDUAL USERS AND NON-RADIATION WORKERS, LEAK TESTS, MAINTENANCE AND SERVICE.

DISPOSAL OF SEALED SOURCES AND/OR DEVICES. STATE WHETHER VENDOR OR LICENSED WASTE DISPOSAL SERVICE WILL ULTIMATELY
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specifically licensed or authorized to perform such services by the Industrial Commissioner,
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BEST OF THEIR KNOWLEDGE AND BELIEF.

APPLICANT NAMED IN ITEM 1.

DATE _____

SIGNATURE _____

TITLE OF CERTIFYING OFFICIAL _____

NOTE - Any misrepresentation of any material fact found to have been made in securing a license pursuant to this application shall constitute cause for the suspension
or revocation of such license

Division of Safety and Health
Radiological Health Unit
Two World Trade Center
New York, N.Y. 10047



Registration No
Date Registered

REGISTRATION OF X-RAY SOURCES AND OTHER TYPES OF PARTICLE ACCELERATORS

SUBMIT IN TRIPLICATE

(SEE OVER FOR INSTRUCTIONS)

1. NAME OF OWNER (Firm or Lessee) Elkem Metals Company		ZIP CODE	COUNTY	PHONE NO (Include Area Code)
2. ADDRESS OF INSTALLATION P.O.Box 1344, 4625 Royal Ave., Niagara Falls, NY 14302		14302	Niagara	
2A. ADDRESS OF FIRM IF DIFFERENT FROM ABOVE		ZIP CODE		PHONE NO (Include Area Code)
3. CONFINES OF INSTALLATION Technology Department				
4. INDUSTRY Ferroalloys			5. TOTAL NO OF WORKERS EXPOSED TO RADIATION IN THIS INSTALLATION 13	
6. ARE THE SOURCES NOW BEING REPORTED PART OF AN INSTALLATION PREVIOUSLY REGISTERED WITH THE STATE OF NEW YORK? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, LIST THE REGISTRATION NUMBER FOR THAT INSTALLATION				

a. Number		b. Description of Each Radiation Producing Machine or Unit	c. Purpose or Use	d. No of Workers Exposed
Fixed	Mobile			
1		ARL X-ray Quantometer Model 72000 Max. 50 KV, 40 ma.	X-ray Fluorescence Analysis	4
1		0-50 KV; Acton Electron Probe Micro Analyzer Building 166 Room 285C Model MS-64	Electron Emission	4
1		35 KV; 20 ma Philips Electronics Inc. Building 166 Room 287A	X-ray Diffraction	4
2		35 KV; 20 ma Philips Electronics Inc. Building 166 Room 287A	X-ray Diffraction	4
1		30 KV; Hitachi Perkin-Elmer HHS-2R Scanning Electron Microscope	Scanning Electron Microscopy	4
1		RCA Electron Microscope Model E.M.U.-4A 50/100 KVP, 300/450 Micro amp. Ser. #4011	Research	4
1		Philips Automated Powder Diffractometer Model XRG-3000 Max. KV 60, ma 80	X-ray Diffraction	4
8. NAME, TITLE, AND BUSINESS ADDRESS OF RADIATION SAFETY OFFICER		9. QUALIFICATIONS OF PERSON LISTED IN NO 8, FOR MOBILE EQUIPMENT LIST QUALIFICATIONS OF PERSONS AT MOBILE SITE IF DIFFERENT FROM NO 8		10. VALIDATION STAMP (OFFICIAL USE ONLY)

I hereby certify that the information contained on this form and on any supplements attached hereto is true and correct to the best of my knowledge and belief.

DATE

SIGNATURE

TITLE

UCCNHT0003426

Division of Safety and Health
Radiological Health Unit
Two World Trade Center
New York, N.Y. 10047



Registration No

Date Registered

REGISTRATION OF X-RAY SOURCES AND OTHER TYPES OF PARTICLE ACCELERATORS

SUBMIT IN TRIPLICATE

(SEE OVER FOR INSTRUCTIONS)

1 NAME OF OWNER (Firm or Lessee)

Elkem Metals Company

2 ADDRESS OF INSTALLATION

ZIP CODE

COUNTY

PHONE NO (Include Area Code)

P.O.Box 1344, 4625 Royal Ave., Niagara Falls, NY 14302 Niagara

2A ADDRESS OF FIRM IF DIFFERENT FROM ABOVE

ZIP CODE

PHONE NO (Include Area Code)

3 CONFINES OF INSTALLATION

Technology Department

4 INDUSTRY

Ferroalloys

5 TOTAL NO OF WORKERS EXPOSED TO RADIATION IN THIS INSTALLATION

13

6 ARE THE SOURCES NOW BEING REPORTED PART OF AN INSTALLATION PREVIOUSLY REGISTERED WITH THE STATE OF NEW YORK?

☐ YES ☒ NO IF YES, LIST THE REGISTRATION NUMBER FOR THAT INSTALLATION

7. RADIATION EQUIPMENT (USE ADDITIONAL SHEETS IF NECESSARY)

a Number		b Description of Each Radiation Producing Machine or Unit	c Purpose or Use	d No of Workers Exposed
Fixed	Mobile			
1		75 KV; 35 ma General Electric XRD-6 Building 94 Room 212	X-ray Fluorescence	4

8 NAME, TITLE AND BUSINESS ADDRESS OF RADIATION SAFETY OFFICER

9 QUALIFICATIONS OF PERSON LISTED IN NO. 8 FOR MOBILE EQUIPMENT LIST QUALIFICATIONS OF PERSONS AT MOBILE SITE IF DIFFERENT FROM NO. 8

10 VALIDATION STAMP (OFFICIAL USE ONLY)

I hereby certify that the information contained on this form and on any supplements attached hereto is true and correct to the best of my knowledge and belief.

DATE

SIGNATURE

TITLE

UCCNHT0003427